

**METHOD AND APPARATUS FOR USING ATRIAL
DISCRIMINATION ALGORITHMS TO DETERMINE
OPTIMAL PACING THERAPY AND THERAPY TIMING**

ABSTRACT OF THE DISCLOSURE

5 A system and method which employs atrial discrimination algorithms to distinguish between different atrial arrhythmias occurring in a patient for selecting an optimal pacing therapy corresponding to the type of arrhythmia identified. The invention may be implemented in a bradycardia pacemaker or other implantable cardiac device. In response to the detection of an atrial rate above the

10 atrial tracking rate, discrimination criteria are applied to a detected atrial activity signal to distinguish between different types of supraventricular tachycardia, such as fast atrial flutter and other atrial flutter at a relatively slower rate, which may be occurring in the patient. The discrimination criteria may be, for example, rate-based or morphology based. The pacer is controlled to provide pacing therapy to a

15 heart in a manner corresponding to the type of supraventricular tachycardia identified. For example, antitachycardia pacing may be provided to the heart in response to the detection of a relatively lower rate supraventricular tachycardia/other atrial flutter, whereas another pacing control, e.g., ventricular pacing, such as ventricular rate regulation or Rate Smoothing, may be applied if a

20 more rapid rate supraventricular tachycardia/fast atrial flutter is identified. The output of an atrial discrimination algorithm may be tracked and the trend thereof used to improve therapy timing.